

Proposed Claim Amendments for Discussion with Examiner Kim
Application No. 10/811,070

MAR 18 2008

13. (Currently Amended) A device manufacturing method, comprising:
emitting a beam of radiation using an illumination system;
imparting to the beam a pattern in its cross section;
projecting the patterned beam of radiation onto a target portion of a surface of a substrate;
measuring a first respective temperature of a first plurality of regions in the target portion of the substrate;
measuring a second respective temperature of a second plurality of regions in the target portion of the substrate;
calculating a dimensional response from differences between measurements of the first and the second respective temperatures of the first and the second plurality of regions of the substrate relative to the respective measured temperature; and
adjusting one or more spatial characteristics of the patterned beam relative to a substrate support to compensate for the calculated dimensional response, wherein the spatial characteristics comprise a cross-sectional shape of the patterned beam, a position of the patterned beam, and a size of the patterned beam.

23. (Previously Presented) A method, comprising:
measuring a first set of temperatures, wherein each temperature corresponds to the temperature at a first different respective regions of a substrate;
forming a first pattern of alignment features at the first different respective regions of the substrate having the measured first set of temperatures during an exposure of the substrate;
measuring a first set of spatial distributions of the first pattern of alignment features of the substrate occurring during the first set of temperatures;
measuring a second set of temperatures, wherein each temperature in the second set corresponds to a second different one of the respective regions of the substrate;
forming a second pattern of alignment features at the second different respective regions of the substrate having the measured second set of temperatures during a subsequent exposure of the substrate;
measuring a second set of spatial distributions of the alignment features occurring during the second set of temperatures; and
determining a dimensional response from differences between measurements of the first set of spatial distributions and measurements of the second set of spatial distributions.

33. (New) A lithographic apparatus, comprising:

a temperature measuring system to measure a first and a second set of temperatures, wherein each temperature in the first set corresponds to the temperature at a first different respective regions of a substrate and wherein each temperature in the second set corresponds to a second different one of the respective regions of the substrate;

a patterning system to form a first and a second pattern of alignment features at the first different respective regions of the substrate having the measured first set of temperatures during an exposure of the substrate and at the second different respective regions of the substrate having the measured second set of temperatures during a subsequent exposure of the substrate;

a metrology system to measure a first and a second set of spatial distributions of the first and the second pattern of alignment features of the substrate occurring during the first and the second set of temperatures and ;

a calculating system to calculate a dimensional response from differences between measurements of the first set of spatial distributions and measurements of the second set of spatial distributions.

Note: We propose adding and amending claims to conform to your allowable subject matter. We wish to discuss if you approve the same.

DRAFT

Atty. Docket No. 1857.2780000